List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 10 (Cancelled).

11. (Currently Amended) A method for calibrating an ultrasonic flow measuring device, which includes a measuring tube, at least two ultrasonic sensors and a control/evaluation unit, comprising the steps of:

emitting and/or receiving ultrasonic measuring signals using the ultrasonic sensors;

determining the flow of a medium in the measuring tube on the basis of the travel times of the ultrasonic measuring signals, which traverse the measuring tube in the stream direction and counter to the stream direction;

~~winning~~ ascertaining information concerning the theoretical flow of the medium through the measuring tube on the basis of predetermined, geometric, production data of the flow measuring device;

determining the actual, geometric measurement data of the flow measuring device three-dimensionally; ~~and~~

~~winning~~ ascertaining information concerning the actual flow of the medium through the flow measuring device on the basis of the actual, geometric measurement data; and

determining a correction, or calibration, factor for the flow measuring device on the basis of the information concerning the theoretical flow, and the actual flow, of the medium through the flow measuring device.

12. (Previously presented) The method as claimed in claim 11, further comprising the step of:

determining the actual, geometric measurement data by a three-dimensional scanning of the flow measuring device.

13. (Previously presented) The method as claimed in claim 12, wherein:

said scanning of the flow measuring device is performed by means of electromagnetic waves or by means of a mechanical scanning head.

14. (Previously presented) The method as claimed in claim 12, further comprising the step of:

simulating the flow measuring device, or the measuring tube, by a mathematical model.

15. (Currently Amended) The method as claimed in claim 14, wherein:

in [[the]] said mathematical model, the following variables are taken into consideration:

the angle of incidence and/or angle of emergence between ultrasonic sensor and the medium;

the separation between two sound emitting, respectively two sound receiving, surfaces of the ultrasonic sensors, which alternately emit and receive;

the radial separation of the sound paths of the ultrasonic measuring signals of two ultrasonic transducers about the central axis of the measuring tube;

the positions of the emitting and receiving surfaces of the ultrasonic sensors relative to the flowing medium or to the inner wall of the measuring tube; and

the cross sectional area of the section of the measuring tube lying between the two ultrasonic transducers and flowed-through by the medium.

16. (Previously presented) The method as claimed in claim 12, wherein:

the actual inner cross sectional area of the measuring tube is determined by measuring the three-dimensional coordinates of a plurality of scanning points lying in at least two parallel cross sectional planes of the measuring tube transverse to the stream direction of the medium.

17. (Currently Amended) The method as claimed in claim 12, further comprising the step of:

determining the three-dimensional coordinates of the sound emergence, ~~respectively~~, or sound incidence, surfaces of the ultrasonic sensors ~~are determined~~.

18. (Currently Amended) The method as claimed in claim 17, wherein:

for the purpose of determining the three-dimensional coordinates of the midpoint of [[the]] said sound emergence, or sound incidence, ~~surface~~ surfaces of [[an]] ultrasonic ~~sensor~~ sensors, a setup gage is used, in which, instead of an ultrasonic transducer, a cone of defined shape is used, which is so embodied, that the midpoint of a ball of defined diameter lies in the midpoint of the sound emergence, or sound incidence, surface of the corresponding ultrasonic sensor, when the ball contacts the cone.

19. (Currently Amended) A setup ~~gage~~ gauge for ~~performing a method comprising the steps of:~~ emitting and/or receiving ultrasonic measuring signals using [[the]] ultrasonic sensors; determining the flow of a medium in [[the]] a measuring tube on the basis of the travel times of the

ultrasonic measuring signals, which traverse the measuring tube in the stream direction and counter to the stream direction; ~~winning~~ ascertaining information concerning the theoretical flow of the medium through the measuring tube on the basis of predetermined, geometric, production data of the flow measuring device; determining the actual, geometric measurement data of the flow measuring device three-dimensionally; [[and]] ~~winning~~ ascertaining information concerning the actual flow of the medium through the flow measuring device on the basis of the actual, geometric measurement data; and determining a correction, or calibration, factor for the flow measuring device on the basis of the information concerning the theoretical flow, and the actual flow, of the medium through the flow measuring device[[;]] ~~the setup gauge~~ having:

a cone-shaped element, which is so dimensioned, that the midpoint of a ball, whose diameter corresponds to the diameter of a scanning head of a mechanical scanning device, lies in the midpoint of the sound emergence, or sound incidence, surface of the ultrasonic sensor, when the ball contacts the cone-shaped element.

20. (Previously presented) The setup gage as claimed for carrying-out the method as claimed in claim 9, wherein:

instead of the ultrasonic transducer, a retroreflector element is provided, which is so embodied, that impinging electromagnetic radiation from a scanning device is reflected back, into the scanning device.